



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,580	12/12/2003	Koji Ogawa	Q78717	8609

23373 7590 10/03/2005
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

HERRERA, DIEGO D

ART UNIT	PAPER NUMBER
----------	--------------

2683

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/733,580	Applicant(s) OGAWA, KOJI	
	Examiner Diego Herrera	Art Unit 2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities: On page 1, the word quality is repeated twice in the paragraph under "BACKGROUND OF THE INVENTION". Patent Document 1-4 headings need to be replaced with actual reference; remove the list on page 6 afterwards. Improper use of coma on page 24, third paragraph, "...level, and, when..." remove the coma after 'and' to correct error.

The abstract of the disclosure is objected to because there are two paragraphs and it only needs to be one paragraph. Correction is required. See MPEP § 608.01(b).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-9 rejected under 35 U.S.C. 102(b) as being anticipated by Kanai (U.S. Patent # 5,239,667).

Consider claim 1, Kanai shows and discloses a method of performing handover control of a wireless mobile device, which is executed in a wireless network that has a base station control apparatus that controls switching of a wireless channel of the

mobile station via a base station that relays wireless communication of the mobile station (col. 3, lines: 17-22), comprising:

- a. A deterioration speed calculation step of, according to a report made from the mobile station to the base station control apparatus and regarding a reception quality of a wireless channel that the mobile station is using, calculating the deterioration speed at which the level of the reception quality deteriorates (col. 2, lines: 49-62; col. 3, lines: 14-37); and
 - b. A condition determining step of, according to the deterioration speed, determining a condition on which the reception quality is to be reported and/or a condition on which handover is to be triggered (col. 4, lines: 49-53).
5. Consider claim 2, and as applied to claim 1 above, Kanai further discloses the method of performing handover control of a wireless mobile device comprising:
- a. A periodical report instructing step of, when the level of the reception quality deteriorates at a speed that exceeds a prescribed deterioration speed, instructing the mobile station to periodically report the reception quality from the base station control apparatus (col. 2, lines 54-62, note: Rayleigh fading is used as the reception quality deterioration measurement instrument; col. 8, lines: 3-11, note: T is the period used to report periodically on the speed of the mobile unit);
 - b. A periodical report executing step of executing the periodic report from the mobile station to the base station control apparatus according to the instruction from the base station control apparatus (col. 2, lines: 54-62; col. 4, lines: 43-48, note: land site is understood by examiner to be base station; col. 4, lines: 49-54);

- c. A level estimating step of, according to the reported reception quality level (col. 3, lines: 3-13), the period (col. 8, lines: 3-11), and the deterioration speed (col. 2, lines: 55-58), estimating the level of the reception quality that will come after the passage of a one period of the periods (col. 3, lines: 8-13; note: crossing rate is understood by examiner to be the periods that take place and each period is compared periodically with the threshold);
 - d. A comparing step of comparing the level of the reception quality that has been estimated and the handover execution threshold value (col. 3, lines: 10-13);
 - e. A handover execution instructing step of, according to the compared result, instructing the mobile station to execute handover from the base station control apparatus (col. 3, lines: 35-39; col. 6, lines: 10-18); and
 - f. A handover-executing step of, according to the instruction to execute the handover, executing handover in the mobile station (col. 3, lines: 10-13).
6. Consider claim 3, and as applied to claim 2 above, Kanai further discloses the higher the deterioration speed is, the shorter the period of the report becomes (col. 2, lines: 51-52; col. 8, lines: 3-11; note: examiners understand these statements to refer to either higher or lower speeds which relates to the period of the reports are to be presented).
7. Consider claim 4, and as applied to claim 2 above, Kanai further discloses in a case where the base station control apparatus has not received the report within the report period that has been designated, instructing the execution of the handover is performed from the base station control apparatus to the mobile station (col. 3, lines:

Art Unit: 2683

20-23 & 31-39; note: the second signal has made no reports to the control unit and it is inherent that this process described in aforementioned lines is done in a prescribed time).

8. Consider claim 5, and as applied to claim 1 above, Kanai further discloses a threshold value setting step of, when the level of the reception quality deteriorates at a speed that is lower than a prescribed deterioration speed, instructing stepwise changing threshold values for performing the next reports from the base station control apparatus to the mobile station (col. 4, lines: 49-53; col. 8, lines: 3-11);

a. A reporting step of, when in the mobile station the level of the reception quality corresponding to the wireless channel of the mobile station has fallen below the threshold value, reporting in the mobile station (col. 4, lines: 36-53; note: the inventor has chosen to set threshold levels labels different than applicants labels, but the function in essence is the same and understood by examiner to be the case);

b. A detecting step of detecting that the level of the reception quality that has been reported has arrived at the handover execution threshold value (col. 5, lines: 29-37 & 46-53 & 56-58);

c. A handover execution instructing step of, according to the detected result, instructing the mobile station to execute handover from the base station control apparatus (col. 5, lines: 61-65); and

d. A handover executing step of, according to the instruction to execute the handover, executing handover in the mobile station (col. 6, lines: 23-26).

9. Consider claim 6, Kanai shows and discloses a base station control apparatus, which is adapted to control switching of the wireless channel of a mobile station via a base station that relays wireless communication of the mobile station, comprising:

a. Deterioration speed calculation means that, according to a report made from the mobile station and regarding a reception quality of a wireless channel that the mobile station is using, calculates the deterioration speed at which the level of the reception quality deteriorates (col. 2, lines: 49-62; col. 3, lines: 14-37; col. 8, lines: 3-11, abstract: 'monitoring the Rayleigh fading...velocity indicative parameter, a threshold level which is used to determine if a handoff is required or not,' this is interpreted by examiner to mean there is a mean in which to calculate the deterioration speed at which the level of the reception quality deteriorates that is reported by the mobile station); and

b. Condition determining means that, according to the deterioration speed, determines a condition on which the reception quality is to be reported and/or a condition on which handover is to be triggered (col. 2, lines: 49-62; col. 3, lines: 14-37; col. 5, lines: 50-59).

10. Consider claim 7, and as applied to claim 6 above, Kanai discloses further the base station control apparatus comprising:

a. Periodical report instructing means that, when the level of the reception quality deteriorates at a speed that exceeds a prescribed deterioration speed, instructs the mobile station to periodically report the reception quality (col. 5, line: 9-11);

- b. Level estimating means that, according to the reported reception quality level, the period, and the deterioration speed, estimates the level of the reception quality that will come after the passage of a one period of the periods (col. 5, lines: 29, note: the detector reports threshold and level crossing rate {deterioration speed}, col. 5, lines: 41-43, note: the microprocessor report the median {signals} and compares the threshold.); and
 - c. Handover control means that, according to the estimated reception quality level, determines switching of the wireless channel of the mobile station (col. 5, lines: 50-59).
- 11. Consider claim 8, and as applied to claim 6 above, Kanai discloses further the base station control apparatus comprising:
 - a. Threshold value setting means that, when the level of the reception quality deteriorates at a speed that is lower than a prescribed deterioration speed instructs stepwise changing threshold values for performing the next reports from the base station control apparatus to the mobile station (col. 3, lines: 32-39; col. 4, lines: 36-37).
- 12. Consider claim 9, Kanai discloses further a wireless mobile device, which is adapted to execute switching of a wireless channel corresponding thereto according to an instruction made from a base station control apparatus via a base station that relays the wireless communication (col. 2, lines: 63-68; col.4, lines: 49-53), comprising:

- a. Wireless reception quality measuring means that measures the reception quality of the wireless channel that the wireless mobile station is using (col. 3, lines: 10-13; col.4, lines: 44-46);
- b. First reporting means that, when the level of the reception quality that has been measured has become lower than a threshold value that has been set beforehand or the threshold value instructed by the base station control apparatus to the wireless mobile device, reports to the base station control apparatus (col.4, lines: 44-46; col. 4, lines: 56-59);
- c. Second reporting means that reports the reception quality that has been measured to the base station control apparatus in periods that the base station control apparatus instructs to the wireless mobile device (col. 6, lines: 23-26; col. 6, lines: 67-68, col. 7, lines: 1-2); and
- d. Handover executing means that executes switching of the wireless channel according to the instruction from the base station control apparatus (col. 6, lines: 15-18).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following list of reference is considered pertinent to applicant's disclosure.

- Ivanov et al. (U.S. Patent # 5,513,380) "Mobile speed dependent handover techniques in hierarchical mobile radio networks".

Art Unit: 2683

- Vaara (U.S. Patent # 6,285,884 B1) "Method and arrangement for making a handover decision in a mobile communication system".
- Owada (U.S. Patent # 6,014,566) "Mobile communication system".
- Moreau et al. (U.S. Patent # 5,913,168) "Method of controlling handover in a multi-cellular radio communication network, and speed estimation methods relating thereto".
- Chia (U.S. Patent # 5,491,834) "Mobile radio handover initiation determination".
- Ericsson et al. (U.S. Patent # 5,884,178) "Method and apparatus for estimating speed of a mobile station in a cellular communications system".
- Wang et al. (U.S. Patent Application Publication # 2002/0082012 A1) "Apparatus, and associated method, for adaptively selecting a handoff threshold in a radio communication system".
- Kikuma (U.S. Patent Application Publication # 2003/0220079 A1) "Cellular phone system and mobile communication terminals and base station controlling apparatus in the system and method changing over to different frequency in the system".


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diego Herrera whose telephone number is (571) 272-0907. The examiner can normally be reached on Monday-Friday, 7 AM- 4:30 PM.

Art Unit: 2683

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William G. Trost can be reached on (571) 272-7872. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D.H.


RAFAEL PEREZ-GUTIERREZ
PRIMARY EXAMINER
9/27/05